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**AMENDMENTS TO THE ABSTRACT:**

Please insert the Abstract of the Disclosure which is on the attached sheet.

## **ABSTRACT**

The present invention relates to an apparatus and method for estimating down link wide-band interference power and noise power in a mobile communications system. By using filters that are matched to the multipath channels of a number of base stations the received powers from the base stations may be differentiated and calculated. The impulse responses of the multipath channels are estimated and the filters are matched such that the impulse response of each filter is the complex conjugate of the time reverse of the estimated impulse response of one of the multipath channels. White noise is modelled as a signal that has passed a single-ray channel. The received noise power is estimated by means of the output signals from the matched filters and the total received signal.